UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,070	03/23/2004	Jogesh Warrior	10040054-1	2645

7590 07/27/2005

AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER	
ROBBINS, JANET L	

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/807,070	WARRIOR ET AL.	
	Examiner	Art Unit	
	Janet Robbins	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☒ Claim(s) *16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "903" has been used to designate both the processor (page 12, ln 6, 9, 10, 12, 13, 15, and 19) and the sensor device (page 12, ln 6). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 16 is objected to because of the following informalities: In claim 16, the word "scatter" in line 10 of the claim should be "sensor". Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-12, 14-23, 25, 27, and 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US PGPub 2003/0012143 A1) in view of Stanforth et al. (US PGPub 2004/0081166 A1).

With respect to claims 1, 16 and 25, Chen et al. teaches detecting and recording access attempts by one or several mobile devices (paragraph 0008; paragraph 0014, ln 9-12, paragraph 15, ln 1-3); calculating and determining a respective probability (paragraph 0001, 0011-0013, 0017) of future access (paragraph 0015, ln 9-11) by a mobile device (paragraph 0017); and communicating and distributing information related to said calculated probabilities (paragraph 0016, ln 1-3).

Chen et al. does not teach multiple nodes within a sensor net. Stanforth et al. teaches operating a sensor net with a sensor device and with multiple nodes (paragraph 0007, ln 8-14; paragraph 0020, ln 1-5, 23-25) which communicate with each other and other mobile devices (paragraph 0021, ln 1-4). The nodes transmit and receive update information and route measurement data (paragraph 0008, ln 1-5; paragraph 0020, ln 7-10; paragraph 0022; paragraph 0028, ln 6-12; paragraph 0032, ln 1-4; paragraph 0042) for collection to respective ones of said multiple nodes using calculated sum of deviations (paragraph 0022, ln 5-8, paragraph 0023, ln 5-8; paragraph 0032, ln 1-3, paragraph 0033). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Chen et al. to include the sensor net of Stanforth et al. because sensors can monitor conditions such as environmental data

and can provide that data to a central collection (Stanforth et al.: paragraph 0020, ln 7-10).

With respect to claims 2 and 17, Chen et al. and Stanforth et al. teach all the elements of parent claims 1 and 16 as shown above. Chen et al. further teaches communicating probabilities (paragraph 0016, ln 1-3) of future access (paragraph 0015, ln 9-11). Chen et al. does not teach routing the information through a sensor network. Stanforth et al. teaches receiving a sum of deviations of future access from a mobile device by at least one node of said sensor net and communicating the received sum of deviations through said sensor net, wherein said routing further uses received sum of deviations to route measurement data (paragraph 0008, ln 1-5; paragraph 0022; paragraph 0028, ln 6-12; paragraph 0032, ln 1-4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Chen et al. to include the sensor net of Stanforth et al. because sensors can monitor conditions such as environmental data and can provide that data to a central collection (Stanforth et al.: paragraph 0020, ln 7-10).

With respect to claim 3, Chen et al. and Stanforth et al. teach all the elements of parent claim 1 as shown above. Chen et al. does not teach repetitively detecting, calculating, and communicating. Stanforth et al. teaches continually exchanging updates between nodes (paragraph 0032, ln 1-3, paragraph 0039, ln 1-4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Chen et al. to include the sensor net of Stanforth et al. because

sensors can monitor conditions such as environmental data and can provide that data to a central collection (Stanforth et al.: paragraph 0020, ln 7-10).

With respect to claims 4 and 18, Chen et al. and Stanforth et al. teach all the elements of parent claims 1 and 16 as shown above. Chen et al. does not teach routing measurement data varying in response to the time of day when said routing is performed. Stanforth et al. teaches calculating and correlating values over a period of time within an update interval for routing information (paragraph 0034, 0035). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Chen et al. to include the sensor net of Stanforth et al. because sensors can monitor conditions such as environmental data and can provide that data to a central collection (Stanforth et al.: paragraph 0020, ln 7-10).

With respect to claim 6, Chen et al. and Stanforth et al. teach all the elements of parent claim 1 as shown above. Chen et al. does not teach sending portions of information between nodes. Stanforth et al. teaches receiving a first portion of said information at a first node in said sensor net; selecting a second portion from said first portion of information using calculated sum of deviations; and transmitting said second portion from said first node to a second node in said sensor net (paragraph 0033, 0034, 0035). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Chen et al. to include the sensor net of Stanforth et al. because routing the update information between nodes increases the robustness and reliablility of the data stream (Stanforth et al.: paragraph 0043, ln 7-11).

With respect to claim 7, Chen et al. and Stanforth et al. teach all the elements of parent claim 6 as shown above. Chen et al. further teaches removing information from said first portion using a cost function (Chen et al.: paragraph 0009; paragraph 0015, ln 15-20).

With respect to claim 8, Chen et al. and Stanforth et al. teach all the elements of parent claim 7 as shown above. Chen et al. further teaches said cost function calculating a path cost to a collection point (Chen et al.: paragraph 0009; paragraph 0015, ln 15-20).

With respect to claim 9, Chen et al. and Stanforth et al. teach all the elements of parent claim 8 as shown above. Chen et al. further teaches the cost function is a function of communication hops to a collection point (Chen et al.: paragraph 0009; paragraph 0015, ln 15-20).

With respect to claim 10, Chen et al. and Stanforth et al. teach all the elements of parent claim 1 as shown above. Chen et al. does not teach selecting a destination collection point. Stanforth et al. teaches selecting a destination collection point using said communicated information (Stanforth et al.: paragraph 0020, ln 7-10; paragraph 0026, 0027, 0042). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Chen et al. to include the collection points of Stanforth et al. because routing the update information between nodes increases the robustness and reliability of the data stream (Stanforth et al.: paragraph 0043, ln 7-11).

With respect to claim 11, Chen et al. and Stanforth et al. teach all the elements of parent claim 1 as shown above. Chen et al. does not teach selecting multiple destination collection points. Stanforth et al. teaches selecting multiple destination collection points using said communicated information (Stanforth et al.: paragraph 0020, ln 7-10; paragraph 0026, 0027, 0042). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Chen et al. to include the collection points of Stanforth et al. because routing the update information between nodes increases the robustness and reliability of the data stream (Stanforth et al.: paragraph 0043, ln 7-11).

With respect to claim 12, Chen et al. and Stanforth et al. teach all the elements of parent claim 11 as shown above. Chen et al. teaches determining a probability (paragraph 0001, 0011-0013, 0017), but does not teach multiple destination collection points. Stanforth et al. teaches calculating for a group access to at least one of said multiple destination collection points (Stanforth et al.: paragraph 0020, ln 7-10; paragraph 0026, 0027, 0042); and comparing said calculated group access to a threshold value (paragraph 0031, ln 7-12; paragraph 0036, ln 16-21). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Chen et al. to include the collection points of Stanforth et al. because routing the update information between nodes increases the robustness and reliability of the data stream (Stanforth et al.: paragraph 0043, ln 7-11).

With respect to claim 14, Chen et al. and Stanforth et al. teach all the elements of parent claim 1 as shown above. Chen et al. futher teaches communicating information

that is indicative of a change in previously communicated information related to said probabilities of future access (paragraph 0017, ln 7-14).

With respect to claim 15, Chen et al. and Stanforth et al. teach all the elements of parent claim 1 as shown above. Chen et al. further teaches that the mobile devices are cellular devices (paragraph 0008, ln 6).

With respect to claims 19 and 20, Chen et al. and Stanforth et al. teach all the elements of parent claim 16 as shown above. Chen et al. further teaches communication is limited to information associated with a subset of sensor devices within said scatter net and a cost function (Chen et al.: paragraph 0015, ln 3-9, ln 15-20; paragraph 0009).

With respect to claim 21, Chen et al. and Stanforth et al. teach all the elements of parent claim 16 as shown above. Chen et al. does not teach employing a source address in routing. Stanforth et al. teaches employing a source address in routing to communicate measurement data originating at a sensor device (Stanforth et al.: paragraph 0029, ln 1-5). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings Chen et al. to include the source address of Stanforth et al. because routing the update information between nodes increases the robustness and reliability of the data stream (Stanforth et al.: paragraph 0043, ln 7-11).

With respect to claim 22, Chen et al. and Stanforth et al. teach all the elements of parent claim 21 as shown above. Chen et al. does not teach selecting a plurality of collection points. Stanforth et al. teaches selecting a plurality of collection points using

said source address routing (Stanforth et al.: paragraph 0020, ln 7-10; paragraph 0024, ln 7-8; paragraph 0026, 0027, 0042; paragraph 0029, ln 1-5). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings Chen et al. to include the collection points of Stanforth et al. because routing the update information between nodes increases the robustness and reliability of the data stream (Stanforth et al.: paragraph 0043, ln 7-11).

With respect to claim 23, Chen et al. and Stanforth et al. teach all the elements of parent claim 22 as shown above. Chen et al. teaches determining a probability (paragraph 0001, 0011-0013, 0017), but does not teach multiple destination collection points. Stanforth et al. teaches determining access to at least one of said plurality of collection points (paragraph 0020, 0026, 0027, 0033, 0034, 0035, 0042). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings Chen et al. to include the collection points of Stanforth et al. because routing the update information between nodes increases the robustness and reliability of the data stream (Stanforth et al.: paragraph 0043, ln 7-11).

With respect to claim 27, Chen et al. and Stanforth et al. teach all the elements of parent claim 25 as shown above. Chen et al. further teaches receiving information from a mobile device related to future access activity of mobile devices (Chen et al.: paragraph 0014).

With respect to claim 28, Chen et al. and Stanforth et al. teach all the elements of parent claim 25 as shown above. Chen et al. further teaches the use of a cost function (Chen et al.: paragraph 0009; paragraph 0015, ln 15-20). Chen et al. does not teach

identifying a plurality of collection points. Stanforth et al. teaches receiving at a first node identification of a plurality of collection points (Stanforth et al.: paragraph 0020, ln 7-10; paragraph 0024, ln 7-8; paragraph 0026, 0027, 0042; paragraph 0029, ln 1-5); selecting a subset of said plurality of collection points (Stanforth et al.: paragraph 0026); and communicating information related to determined sum of deviations limited to said subset to a second node (paragraph 0033, 0034, 0035). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings Chen et al. to include the collection points of Stanforth et al. because routing the update information between nodes increases the robustness and reliability of the data stream (Stanforth et al.: paragraph 0043, ln 7-11).

5. Claims 5 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US PGPub 2003/0012143 A1) in view of Stanforth et al. (US PGPub 2004/0081166 A1), and further in view of Scherzer et al. (US PGPub 2005/0122999 A1). Chen et al. and Stanforth et al. teach all the elements of parent claim 1 as shown above. Chen et al. and Stanforth et al. do not teach calculating a time window average. Scherzer et al. teaches calculating averages within a time window (Scherzer et al.: paragraph 0066, ln 5-11). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Chen et al. and Stanforth et al. to include the time window average of Scherzer et al. in order to allow a plurality of users to use the network (Scherzer et al.: paragraph 0009).

6. Claims 13 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US PGPub 2003/0012143 A1) in view of Stanforth et al. (US PGPub

2004/0081166 A1), and further in view of Stephens et al. (US Patent 6,055,277). Chen et al. and Stanforth et al. teach all the elements of parent claim 1 as shown above. Chen et al. and Stanforth et al. do not teach using a pseudo-random algorithm to distribute measurement data. Stephens et al. teaches using a pseudo-random algorithm (randomization logic) to distribute data according to a probability distribution (Stephens et al.: col 7, ln 7-15). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Chen et al. and Stanforth et al. to include the pseudo-random algorithm of Stephens et al. because a pseudo-random algorithm will keep surrounding nodes from being overloaded with an a greater percentage of the information to be transmitted.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dillinger et al. (US PGPub 2005/0085231 A1) teaches a method for re-routing a communications link.

Juttner et al. (US PGPub 2002/0045453 A1) teaches using a cost function to route data between nodes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janet Robbins whose telephone number is 571-272-8584. The examiner can normally be reached on weekdays from 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

JLR
July 15, 2005

MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800